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FAA-2002-13438-2

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2002-13438; Notice No. 02-15]

RIN 2120-AH40

Trim Systems and Protective Breathing Equipment

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Federal Aviation Administration proposes to amend the airworthiness standards for transport category airplanes concerning trim systems. For trim systems, the minimum design standard would be established. The FAA proposes to amend the airworthiness standards for transport category airplanes concerning protective breathing equipment (PBE). For PBE, the proposed standard would define design and installation requirements for portable and stationary protective breathing equipment. Adopting these proposals would eliminate regulatory differences between the airworthiness standards of the U.S. and the Joint Aviation Requirements of Europe, without affecting current industry design practices.

DATES: Send your comments on or before [Insert date 60 days after date of publication in the Federal Register.]

ADDRESSES:

Address your comments to Dockets Management System, U.S. Department of Transportation Dockets, Room Plaza 401, 400 Seventh Street SW., Washington, DC 20590-0001. You must identify the docket number FAA-2002-13438 at the beginning of your comments, and you should submit two copies of your comments. If you wish to receive confirmation that the FAA has received your comments, please include a

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self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. _____." We will date-stamp the postcard and mail it back to you.

You also may submit comments electronically to the following Internet address:
<http://dms.dot.gov>.

You may review the public docket containing comments to this proposed regulation at the Department of Transportation (DOT) Dockets Office, located on the plaza level of the Nassif Building at the above address. You may review the public docket in person at this address between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. Also, you may review the public dockets on the Internet at <http://dms.dot.gov>.

FOR FURTHER INFORMATION CONTACT: Kenneth Frey, FAA, Systems and Equipment Branch, ANM-130S, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, WA 98055-4056; telephone 425-227-2673; facsimile 425-227-1320, e-mail kenneth.frey@faa.gov, or

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SUPPLEMENTARY INFORMATION:

How Do I Submit Comments to this NPRM?

Interested persons are invited to participate in the making of the proposed action by submitting such written data, views, or arguments, as they may desire. Comments relating to the environmental, energy, federalism, or economic impact that might result from adopting the proposals in this document are also invited. Substantive comments should be accompanied by cost estimates. Comments must identify the regulatory docket number and be submitted in duplicate to the DOT Rules Docket address specified above.

All comments received, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking, will be filed in the docket. The docket is available for public inspection before and after the comment closing date.

We will consider all comments received on or before the closing date before taking action on this proposed rulemaking. Comments filed late will be considered as far as possible without incurring expense or delay. The proposals in this document may be changed in light of the comments received.

How Can I Obtain a Copy of this NPRM?

You may download an electronic copy of this document using a modem and suitable communications software from the FAA regulations section of the Fedworld electronic bulletin board service (telephone: 703-321-3339); the Government Printing Office's (GPO) electronic bulletin board service (telephone: 202-512-1661); or, if applicable, the FAA's Aviation Rulemaking Advisory Committee bulletin board service (telephone: 800-322-2722 or 202-267-5948).

Internet users may access recently published rulemaking documents at the FAA's web page at <http://faa.gov/avr/arm/index.cfm> or the GPO's web page at http://www.gpo.gov/su_docs/aces/aces140.html.

You may obtain a copy of this document by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue, SW., Washington, DC 20591; or by calling 202- 267-9680. Communications must identify the docket number of this NPRM.

Any person interested in being placed on the mailing list for future rulemaking documents should request from the above office a copy of Advisory Circular 11-2A, "Notice of Proposed Rulemaking Distribution System," which describes the application procedure.

BACKGROUND

What Are the Relevant Airworthiness Standards in the United States?

In the United States, the airworthiness standards for type certification of transport category airplanes are contained in Title 14, Code of Federal Regulations (CFR) part 25. Manufacturers of transport category airplanes must show that each airplane they produce of a different type design complies with the appropriate part 25 standards. These standards apply to:

- airplanes manufactured within the U.S. for use by U.S.-registered operators, and
- airplanes manufactured in other countries and imported to the U.S. under a bilateral airworthiness agreement.

What Are the Relevant Airworthiness Standards in Europe?

In Europe, the airworthiness standards for type certification of transport category airplanes are contained in Joint Aviation Requirements (JAR)-25, which are based on part 25. These were developed by the Joint Aviation Authorities (JAA) of Europe to provide a common set of airworthiness standards within the European aviation community. Twenty-three European countries accept airplanes type certificated to the JAR-25 standards, including airplanes manufactured in the U.S. that are type certificated to JAR-25 standards for export to Europe.

What is “Harmonization” and How Did it Start?

Although part 25 and JAR-25 are very similar, they are not identical in every respect. When airplanes are type certificated to both sets of standards, the differences between part 25 and JAR-25 can result in substantial additional costs to manufacturers and operators. These additional costs, however, frequently do not bring about an increase in safety. In many cases, part 25 and JAR-25 may contain different requirements to accomplish the same safety intent. Consequently, manufacturers are usually burdened

with meeting the requirements of both sets of standards, although the level of safety is not increased correspondingly.

Recognizing that a common set of standards would not only benefit the aviation industry economically, but also maintain the necessary high level of safety, the FAA and the JAA began an effort in 1988 to “harmonize” their respective aviation standards. The goal of the harmonization effort is to ensure that:

- where possible, standards do not require domestic and foreign parties to manufacture or operate to different standards for each country involved; and
- the standards adopted are mutually acceptable to the FAA and the foreign aviation authorities.

The FAA and JAA have identified a number of significant regulatory differences (SRD) between the wording of part 25 and JAR-25. Both the FAA and the JAA consider “harmonization” of the two sets of standards a high priority.

What is ARAC and What Role Does it Play in Harmonization?

After initiating the first steps towards harmonization, the FAA and JAA soon realized that traditional methods of rulemaking and accommodating different administrative procedures was neither sufficient nor adequate to make appreciable progress towards fulfilling the goal of harmonization. The FAA then identified the Aviation Rulemaking Advisory Committee (ARAC) as an ideal vehicle for assisting in resolving harmonization issues, and, in 1992, the FAA tasked ARAC to undertake the entire harmonization effort.

The FAA had formally established ARAC in 1991 (56 FR 2190, January 22, 1991), to provide advice and recommendations concerning the full range of the FAA’s safety-related rulemaking activity. The FAA sought this advice to develop better rules in less overall time and using fewer FAA resources than previously needed. The committee provides the FAA firsthand information and insight from interested parties regarding potential new rules or revisions of existing rules.

There are 64 member organizations on the committee, representing a wide range of interests within the aviation community. Meetings of the committee are open to the public, except as authorized by section 10(d) of the Federal Advisory Committee Act.

The ARAC establishes working groups to develop recommendations for resolving specific airworthiness issues. Tasks assigned to working groups are published in the Federal Register. Although working group meetings are not generally open to the public, the FAA solicits participation in working groups from interested members of the public who possess knowledge or experience in the task areas. Working groups report directly to the ARAC, and the ARAC must accept a working group proposal before ARAC presents the proposal to the FAA as an advisory committee recommendation.

The activities of the ARAC will not, however, circumvent the public rulemaking procedures; nor is the FAA limited to the rule language “recommended” by ARAC. If the FAA accepts an ARAC recommendation, the agency proceeds with the normal public rulemaking procedures. Any ARAC participation in a rulemaking package is fully disclosed in the public docket.

Under this program, the FAA provides ARAC with an opportunity to review, discuss, and comment on the FAA’s draft NPRM. In the case of this rulemaking, ARAC recommended a number of editorial changes to the NPRM for §§ 25.677(b) and 25.1439 with which we agree, and one change to NPRM § 25.1439 with which we disagree. The ARAC recommended change and the FAA reason for disagreeing are described below in the Discussion of the Proposal.

DISCUSSION OF THE PROPOSAL

What is the Underlying Safety Issue Addressed by the Current Standards?

- For § 25.677(b)

This requirement for § 25.677(b) establishes the minimum design standard for trim indication systems. The intent of this standard is to provide the flightcrew with

accurate direction and position indication in relation to the airplane motion when the trim system is in operation.

- For § 25.1439

For § 25.1439, smoke, excessive carbon dioxide, or toxic gases on the flight deck can inhibit or prevent the flightcrew from performing their duties, which can lead to unsafe conditions. Also, the unavailability of sufficient fire fighting equipment on the flight deck or in accessible compartments can lead to unsafe conditions. Part 25 and the JAR define design and installation requirements for portable and stationary protective breathing equipment to ensure safe operation if a fire or adverse environment develops.

What are the Current 14 CFR and JAR Standards?

- **The current text of 14 CFR 25.677(b) is:**

(b) There must be means adjacent to the trim control to indicate the direction of the control movement relative to the airplane motion. In addition, there must be clearly visible means to indicate the position of the trim device with respect to the range of adjustment.

- **The current text of JAR-25.677(b) (Change 15) is:**

(b) There must be means adjacent to the trim control to indicate the direction of the control movement relative to the aeroplane motion. In addition, there must be clearly visible means to indicate the position of the trim device with respect to the range of adjustment. The indicator must be clearly marked with the range within which it has been demonstrated that take-off is safe for all centre of gravity position approved for take-off.

- **The current text of 14 CFR 25.1439 is:**

§ 25.1439 Protective Breathing Equipment.

(a) If there is a class A, B, or E cargo compartment, protective breathing equipment must be installed for the use of appropriate crewmembers. In addition, protective breathing equipment must be installed in each isolated separate compartment

in the airplane, including upper and lower lobe galleys, in which crewmember occupancy is permitted during flight for the maximum number of crewmembers expected to be in the area during any operation.

(b) For protective breathing equipment required by paragraph (a) of this section or by any operating rule of this chapter, the following apply:

(1) The equipment must be designed to protect the flight crew from smoke, carbon dioxide, and other harmful gases while on flight deck duty and while combating fires in cargo compartments

(2) The equipment must include-

(i) Masks covering the eyes, nose, and mouth; or

(ii) Masks covering the nose and mouth, plus accessory equipment to cover the eyes.

(3) The equipment, while in use, must allow the flight crew to use the radio equipment and to communicate with each other, while at their assigned duty stations.

(4) The part of the equipment protecting the eyes may not cause any appreciable adverse effect on vision and must allow corrective glasses to be worn.

(5) The equipment must supply protective oxygen of 15 minutes duration per crewmember at a pressure altitude of 8,000 feet with a respiratory minute volume of 30 liters per minute BTPD. If a demand oxygen system is used, a supply of 300 liters of free oxygen at 70°F. and 760mm Hg. pressure is considered to be of 15-minute duration at the prescribed altitude and minute volume. If a continuous flow protective breathing system is used (including a mask with a standard rebreather bag) a flow rate of 60 liters per minute at 8,000 feet (45 liters per minute at sea level) and a supply of 600 liters of free oxygen at 70° F. and 760 mm. Hg. pressure is considered to be of 15-minute duration at the prescribed altitude and minute volume. BTPD refers to body temperature conditions (that is, 37° C., at ambient pressure, dry).

(6) *The equipment must meet the requirements of paragraphs (b) and (c) of §25.1441.*

• **The current text of JAR 25.1439 (Change 15) is:**

JAR 25.1439 Protective Breathing Equipment.

(a) Protective breathing equipment must be installed for use of appropriate crew members. Such equipment must be located so as to be available for use in compartments accessible in flight.

(b) For protective breathing equipment required by JAR 25.1439 (a) or by the National Operating Regulations, the following apply:

(1) The equipment must be designed to protect the appropriate crew member from smoke, carbon dioxide, and other harmful gases while on flight deck duty or while combating fires.

(2) The equipment must include --

(i) Masks covering the eyes, nose and mouth, or

(ii) Masks covering the nose and mouth, plus accessory equipment to cover the eyes.

(3) Equipment, including portable equipment, while in use must allow communication with other crew members. Equipment available at flight crew assigned duty stations must enable the flight crew to use radio equipment.

(4) The part of the equipment protecting the eyes may not cause any appreciable adverse effect on vision and must allow corrective glasses to be worn.

(5) Each dispensing equipment must supply protective oxygen of 15 minutes duration at a pressure altitude of 8000 feet with a respiratory minute volume of 30 liters per minute BTPD. The equipment and system must be designed to prevent any leakage to the inside of the mask and any significant increase in the oxygen content of the local ambient atmosphere. (See ACJ 25.1439 (b)(5).)

(6) The equipment must meet the requirements of JAR 25.1441.

What are the Differences in the Standards and What Do Those Differences Result In?

- For § 25.677(b)

The JAR imposes one additional requirement not found in part 25. The JAR adds a requirement to clearly mark a range on the trim indication system where take-off is safe for all center of gravity positions.

- For § 25.1439

Paragraph (a): Section 25.1439 requires Protective Breathing Equipment (PBE) if there is a class A, B, or E cargo compartment. It also requires PBE in each isolated separate compartment where crewmember occupancy is permitted during flight for the maximum number of crewmembers expected to occupy that area during any operation. JAR 25.1439 requires PBE to be available for use in any compartment that is accessible in flight, regardless of compartment classification, or isolation.

Paragraph (b): Section 25.1439 and the JAR are essentially the same, with both regulations referring to paragraph (a) and the operating regulations.

Paragraph (b)(1): Section 25.1439 specifies that the equipment must be designed to protect the flightcrew while on duty and while combating fires in cargo compartments. The JAR specifies protection for the appropriate crewmember (not just flightcrew) and does not limit the fire combating to cargo compartments.

Paragraph (b)(2): There are no differences between the regulations.

Paragraph (b)(3): Section 25.1439 and the JAR list essentially the same requirements for communication to other crewmembers and allowing use of radio equipment. The only difference is that the JAR clarifies that the standard applies to both stationary and portable equipment.

Paragraph (b)(4): There are no differences between the regulations.

Paragraph (b)(5): Both part 25 and the JAR state that the equipment must supply protective oxygen of 15-minute duration per crewmember at a pressure of 8,000 feet with

a respiratory minute volume of 30 liters per minute BTPD (body temperature). Part 25 includes interpretive material for a 15-minute duration using demand or continuous flow systems, and defines BTPD. The JAR refers to ACJ 25.1439(b)(5) for the interpretive material, which describes the 15-minute duration using a demand system.

- ***The current text of ACJ 25.1439(b)(5) is:***

ACJ 25.1439(b)(5) Protective Breathing Equipment (Interpretative Material And Acceptable Means Of Compliance)

See JAR 25.1439(b)(5)

1. If a demand system is used, a supply of 300 litres of free oxygen at 70° and 760 mm Hg pressure is considered to be of 15 minutes duration at the prescribed altitude and minute volume. (Interpretative Material.)

2. Any other system such as a continuous flow system is acceptable provided that it does not result in any significant increase in the oxygen content of the local ambient atmosphere above that which would result from the use of a demand oxygen system. (Interpretative Material.)

3. A system with safety over-pressure would be an acceptable means of preventing leakage. (Acceptable Means of Compliance.)

4. A continuous flow system of the closed circuit rebreather type is an acceptable system (Acceptable Means of Compliance.).

The JAR includes additional design requirements to prevent internal leakage and to prevent increased oxygen content of the local atmosphere due to external leakage.

Paragraph (b)(6): The JAR specifies that the equipment must meet all paragraphs of § 25.1441 (not just (b) and (c) as in part 25).

Note: § 25.1441 and JAR 25.1441 are not identical, but are essentially the same.

What, If Any, Are the Differences in the Means of Compliance?

- For § 25.677(b)

The JAR means of compliance requires the applicant to mark safe take-off limits on the trim indication system. Currently, part 25 does not have this requirement.

- For § 25.1439

There is no difference in the means of compliance for the stationary type of PBE. All aircraft are equipped with a demand oxygen system for the flightcrew, consisting of a high pressure gaseous oxygen supply (minimum of 300 liters of free oxygen per person),

pressure/flow regulation, distribution tubing, and masks (or mask and goggle combination if separate) that meet TSO-C99 and JTSO-C99.

The means of compliance for the quantity and location of portable type PBE is slightly different. The JAA certified aircraft have at least one PBE installed in/near the flight deck and in/near each compartment accessible in flight. Some, but not all, FAA certified aircraft have portable PBE installed on the flight deck. The FAA certified aircraft have PBE installed in/near each class A, B, and E cargo compartments (as defined by § 25.857). Also, PBE is installed in/near each isolated separate compartment for the maximum number of crewmembers expected to be in the area. These compartments include, but are not limited to, upper and lower lobe galleys. The JAA certified aircraft may not be equipped with as many PBE as there may be crewmembers in isolated compartments.

Of course those compartments or areas with special conditions against them are not discussed in this proposal. The requirements and means of compliance are documented separately.

What Is the Proposed Action?

- For § 25.677(b)

The proposed action would adopt the more stringent JAR requirement, which adds the requirement to mark the safe take-off limits on the trim indication system.

- For § 25.1439

The proposed action is to merge the requirements of both part 25 and JAR standards, and to develop a baseline set of standards and an acceptable means of compliance that would satisfy all authorities. The merged standard would combine the requirements of § 25.1439 and JAR 25.1439 into one harmonized standard and eliminate the need for ACJ 25.1439(b)(5). The harmonization would be accomplished by enveloping (taking the most stringent requirement of) the two standards and adding some

of the interpretive material from the ACJ. The result would be a common standard that is easy to understand.

The ARAC working group comments that a small part 25 airplane with a Class A baggage compartment is not required to have a PBE installed. The FAA does not agree. If a small part 25 airplane is equipped with a Class A baggage compartment, then part 25 requires installation of a PBE, even if part 91 does not require the PBE.

How Does This Proposed Standard Address the Underlying Safety Issue?

- For § 25.677(b)

The proposed change to § 25.677(b) would be an additional requirement to mark the safe take-off limits on the trim system. The adoption of this change would be a new minimum design standard for trim systems.

- For § 25.1439

The proposed regulation clearly defines design and compliance criteria for stationary and portable protective breathing equipment in one harmonized standard. It incorporates the more stringent portions of the existing part 25 and JAR requirements.

What is the Effect of the Proposed Standard Relative to the Current Regulations?

- For § 25.677(b)

The proposed standard would increase the level of safety by adding a new requirement to § 25.677 to mark safe take-off limits on the trim indication system.

- For § 25.1439

This standard has been changed to include the more stringent requirements of § 25.1439 and JAR 25.1439. Paragraph (a) of the existing JAR requires protective breathing equipment to be installed for fire fighting use in all compartments accessible in flight, not just specific cargo compartments. Paragraph (a) of the existing § 25.1439 requires portable protective breathing equipment for each crewmember in isolated compartments; the JAR requires the equipment for use of the appropriate crewmembers. Paragraphs (b)(5) and (b)(6) of the existing JAR 25.1439 are more stringent than the

existing § 25.1439. The JAR paragraphs include additional leakage and design requirements above the existing § 25.1439.

The proposed standard may increase the safety of aircraft only certified to part 25 or the JAR's. For some configurations, the revised part 25 regulation would require additional portable PBE to be installed by the airframe Original Equipment Manufacturers (OEMs). Most operating standards, such as § 121.337 and JAR-OPS 1.780, require additional portable PBE above what is required for type-design certification. Some operating standards, such as 14 CFR part 91, may not require as many portable PBE as § 25.1439 and JAR 25.1439. An increase in safety would come from the situation where the airplane's applicable operational requirements are the same as, or less than, the current § 25.1439. An increase in safety would also exist if an airplane is only certificated to JAR-25 and does not have PBE equal to the number of crewmembers expected to be in the isolated compartments.

What is the Effect of the Proposed Standard Relative to Current Industry Practice?

- For § 25.677(b)

The proposed standard would maintain the same level of safety as current industry practice. Most airplanes certified under current requirements already mark safe take-off limits on trim indication systems to show compliance to JAR 25.677.

- For § 25.1439

The current industry practice is to install PBE in accordance with the more stringent requirements of § 25.1439 or JAR 25.1439, depending on which certification standards are being used, and the applicable operational standards. Airlines and OEMs typically configure the aircraft at the time of design with more PBE than is required by either § 25.1439 or JAR 25.1439, to facilitate approval for operation under applicable operating rules. The proposed revision to the standard would maintain the same level of safety if the airplane's operational requirements require more portable PBE than part 25 and JAR-25. If the airplane's operational requirements are less stringent than § 25.1439,

then the proposed standard would increase the level of safety for aircraft only certified to part 25. The proposed standard would increase the level of safety for aircraft that are only certified to JAR-25 if the airplane is not equipped with enough PBE for the maximum number of crewmembers expected to be in isolated compartments.

What Other Options Have Been Considered and Why Were They Not Selected?

- For § 25.677(b)

No other option was considered because this would be a simple change to the current standard. The change will harmonize § 25.677 to JAR 25.677.

- For § 25.1439

Enveloping (taking the most stringent requirement of each) § 25.1439, JAR 25.1439, § 121.337, and JAR-OPS 1.780 into one harmonized § 25.1439 and JAR 25.1439 was considered. This option was not selected since it would include some operational requirements and would likely drive changes to § 121.337 and JAR-OPS 1.780. Changes to these requirements would take considerable effort and would be beyond the scope of the ARAC tasking statement.

Who Would Be Affected by the Proposed Change?

- For § 25.677(b)

This change would affect new type certificate applicants.

- For § 25.1439

Airlines typically purchase portable PBE and flightcrew masks and provide them to the airframe OEMs for installation. The proposed change to the standard would require additional portable PBE to be installed on some aircraft. Additional units would increase the airlines' procurement costs and the airplane manufacturer's installation cost.

Is Existing FAA Advisory Material Adequate?

- For 21 25.677(b)

There is no advisory material for this rule and no advisory material is proposed.

- For § 25.1439

No advisory material would be needed. The text of the proposed standard incorporates the interpretive material (paragraphs 1 and 2) and the acceptable means of compliance (paragraph 4) of ACJ 25.1439(b)(5). The remainder of ACJ 25.1439(b)(5) would be eliminated.

What Regulatory Analyses and Assessments Has the FAA Conducted?

Regulatory Evaluation Summary

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic effect of regulatory changes on small entities. Third, the Trade Agreements Act prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Agreements Act also requires the consideration of international standards and, where appropriate, that they be the basis of U.S. standards. And fourth, the Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector of \$100 million or more annually (adjusted for inflation).

In conducting these analyses, the FAA has determined that this proposal has benefits, but minimal costs, and that it is not “a significant regulatory action” as defined in the Executive Order 12866 nor “significant” as defined in DOT’s Regulatory Policies and Procedures. Further, this proposed rule would not have a significant economic

impact on a substantial number of small entities, would reduce barriers to international trade, and would not impose an Unfunded Mandate on state, local, or tribal governments, or on the private sector.

Because there are minimal costs associated with this proposed rule, it does not warrant the preparation of a full economic evaluation for placement in the docket. The DOT Order 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If it is determined that the expected impact is so minimal that the proposed rule does not warrant a full evaluation, a statement to that effect and the basis for it is included in the proposed regulation. Accordingly, because the OEMs are already meeting the higher standard, the FAA has determined that the expected impact of this proposed rule is so minimal that the proposed rule does not warrant a full evaluation below.

A review of current manufacturers of transport category aircraft certificated under part 25 has revealed that all such future aircraft are expected to be certificated under both 14 CFR part 25 and JAR-25. Since future certificated transport category aircraft are expected to meet the existing JAR requirement and these proposed rules simply adopts the same JAR requirement, manufacturers would incur minimal costs resulting from this proposal.

- For § 25.677(b)

This proposal would harmonize part 25 to the JAR by adding an additional requirement to § 25.677(b). The new § 25.677(b) would require a clearly visible means to indicate the position of the trim device with respect to the range of adjustment. The ARAC working group states the proposed change will not increase manufacturing or operating costs and current industry practice already mark safe take-off limits on trim indication systems to show compliance to JAR 25.677(b) on most airplanes certified under § 25.677(b).

- For § 25.1439

This proposal would combine the requirements of § 25.1439 and JAR 25.1439, and the advisory material for paragraph 25.1439(b)(5) of the JAR into one rule. This rule would apply to the design and installation of stationary and portable protective breathing equipment. The FAA has concluded that, for the reasons previously discussed in the preamble, the adoption of this harmonized standard into the JAR and 14 CFR part 25 is the most efficient way to harmonize these sections.

The FAA estimates that there are minimal costs associated with this proposal. A review of current manufacturers of transport category aircraft certificated under part 25 has revealed that all such future aircraft are expected to be certificated under part 25 of both 14 CFR and the JAR. Since future certificated transport category aircraft are expected to meet the existing requirements of 14 CFR § 25.1439 and section 25.1439 of the JAR, and this rule simply adopts the more stringent requirements of each section, manufacturers would incur minimal costs resulting from this proposal. In fact, manufacturers are expected to receive cost-savings by a reduction in the FAA/JAA certification requirements for new aircraft. Most operating rules, such as § 121.337 require additional portable PBE above what is required for type-design certification. In addition, most airlines and OEMs typically configure the airplane, at the time of design, with more PBE than is required by § 25.1439. The current industry practice is to install PBE in accordance with the more stringent requirements of both JAR-25 and part 25 and the applicable operational rules.

- For §§ 25.677(b) and 25.1439

Manufacturers are expected to receive certification cost-savings with a single FAA/JAA certification requirement for new aircraft. The FAA, however, has not attempted to quantify the cost savings for this specific proposal, beyond noting that, while they may be minimal, they contribute to a large potential harmonization savings.

The agency concludes that, since there is consensus among potentially affected airplane manufacturers that the benefits of harmonization exceed the cost, further analysis is not required.

The FAA requests comments with supporting documentation in regard to the conclusions contained in this section.

Initial Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980, 5 U.S.C. 601-612, as amended, establishes “as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation.” To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant impact on a substantial number of small entities. If the determination is that the rule will, the Agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA considers that this proposed rule would not have a significant impact on a substantial number of small entities for two reasons:

First, the net effect of the proposed rule is minimum regulatory cost relief. The proposed rule would require that new transport category aircraft manufacturers meet just the “more stringent” European certification requirement, rather than both the United

States and European standards. Airplane manufacturers already meet or expect to meet this standard as well as the existing 14 CFR part 25 requirement.

Second, all U.S. transport-aircraft category manufacturers exceed the Small Business Administration small-entity criteria of 1,500 employees for aircraft manufacturers. The current U.S. part 25 airplane manufacturers include: Boeing, Cessna Aircraft, Gulfstream Aerospace, Learjet (owned by Bombardier), Lockheed Martin, McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company), Raytheon Aircraft, and Sabreliner Corporation.

Given that this proposed rule is minimally cost-relieving and that there are no small entity manufacturers of part 25 airplanes, the FAA certifies that this proposed rule would not have a significant impact on a substantial number of small entities.

International Trade Impact Assessment

The Trade Agreement Act of 1979, 19 U.S.C. et seq., prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

In accordance with the above statute, the FAA has assessed the potential effect of the proposed rule and has determined that it is consistent with the statutes requirements by using European international standards as the basis for U.S. standards.

Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), codified in 2 U.S.C. 1532-1538, 1571, enacted as Public Law 104-4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private

sector, of \$100 million or more (adjusted annually for inflation) in any one year. This proposed rule does not contain a Federal intergovernmental or private sector mandate that exceeds \$100 million in any year; therefore, the requirements of the Act do not apply.

What Other Assessments Has the FAA Conducted?

Executive Order 13132, Federalism

The FAA has analyzed this proposed rule and the principles and criteria of Executive Order 13132, Federalism. The FAA has determined that this action would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, the FAA has determined that this notice of proposed rulemaking would not have federalism implications.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. We have determined that there are no new information collection requirements associated with this proposed rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA determined that there are no ICAO Standards and Recommended Practices that correspond to this proposed regulation.

Environmental Analysis

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental impact

statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this proposed rulemaking action qualifies for a categorical exclusion.

Energy Impact

The energy impact of the proposed rule has been assessed in accordance with the Energy Policy and Conservation Act (EPCA) and Public Law 94-163, as amended (43 U.S.C. 6362), and FAA Order 1053.1. It has been determined that it is not a major regulatory action under the provisions of the EPCA.

Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in Title 14 of the CFR in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. Because this proposed rule would apply to the certification of future designs of transport category airplanes and their subsequent operation, it could, if adopted, affect intrastate aviation in Alaska. The FAA therefore specifically requests comments on whether there is justification for applying the proposed rule differently to intrastate operations in Alaska.

Plain Language

In response to the June 1, 1998, Presidential memorandum regarding the issue of plain language, the FAA re-examined the writing style currently used in the development of regulations. The memorandum requires Federal agencies to communicate clearly with the public. We are interested in your comments on whether the style of this document is clear, and in any other suggestions you might have to improve the clarity of FAA communications that affect you. You can get more information about the Presidential memorandum and the plain language initiative at <http://www.plainlanguage.gov>.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and record keeping requirements, Safety, Transportation.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 25 of Title 14, Code of Federal Regulations, as follows:

PART 25 - AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY

AIRPLANES

1. The authority citation for part 25 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702 and 44704

2. Amend § 25.677 by revising paragraph (b) to read as follows:

§ 25.677 Trim Systems.

* * * * *

(b) There must be means adjacent to the trim control to indicate the direction of the control movement relative to the airplane motion. In addition, there must be clearly visible means to indicate the position of the trim device with respect to the range of adjustment. The indicator must be clearly marked with the range within which it has been demonstrated that take-off is safe for all center of gravity positions approved for take-off.

* * * * *

3. Revise § 25.1439 to read as follows:

§ 25.1439 Protective Breathing Equipment.

(a) Fixed (stationary, or built in) protective breathing equipment must be installed for the use of the flightcrew, and at least one portable protective breathing equipment shall be located at or near the flight deck for use by a flight crewmember. In addition,

portable protective breathing equipment must be installed for the use of appropriate crewmembers for fighting fires in compartments accessible in flight. This includes isolated compartments and upper and lower lobe galleys, in which crewmember occupancy is permitted during flight. Equipment must be installed for the maximum number of crewmembers expected to be in the area during any operation.

(b) For protective breathing equipment required by § 25.1439 (a) or by the applicable Operating Regulations:

(1) The equipment must be designed to protect the appropriate crewmember from smoke, carbon dioxide, and other harmful gases while on flight deck duty or while combating fires.

(2) The equipment must include -

(i) Masks covering the eyes, nose and mouth, or

(ii) Masks covering the nose and mouth, plus accessory equipment to cover the eyes.

(3) Equipment, including portable equipment, must allow communication with other crewmembers while in use. Equipment available at flightcrew assigned duty stations must also enable the flightcrew to use radio equipment.

(4) The part of the equipment protecting the eyes shall not cause any appreciable adverse effect on vision and must allow corrective glasses to be worn.

(5) The equipment must supply protective oxygen of 15 minutes duration per crewmember at a pressure altitude of 8,000 feet with a respiratory minute volume of 30 liters per minute BTPD. The equipment and system must be designed to prevent any inward leakage to the inside of the device and prevent any outward leakage causing

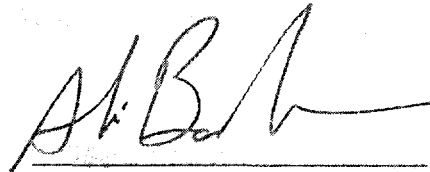
significant increase in the oxygen content of the local ambient atmosphere. If a demand oxygen system is used, a supply of 300 liters of free oxygen at 70° F. and 760mm Hg. pressure is considered to be of 15-minute duration at the prescribed altitude and minute volume. If a continuous flow protective breathing system is used (including a closed circuit rebreather type system) a flow rate of 60 liters per minute at 8,000 feet (45 liters per minute at sea level) and a supply of 600 liters of free oxygen at 70° F. and 760 mm. Hg. pressure is considered to be of 15-minute duration at the prescribed altitude and minute volume. Continuous flow systems must not increase the ambient oxygen content of the local atmosphere above that of demand systems. BTPD refers to body temperature conditions (that is, 37° C., at ambient pressure, dry).

- (6) The equipment must meet the requirements of § 25.1441.

1429(a)

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